

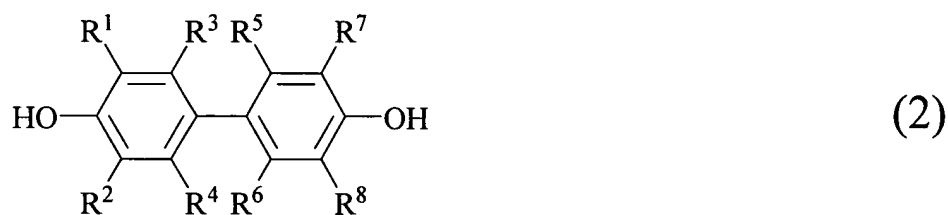
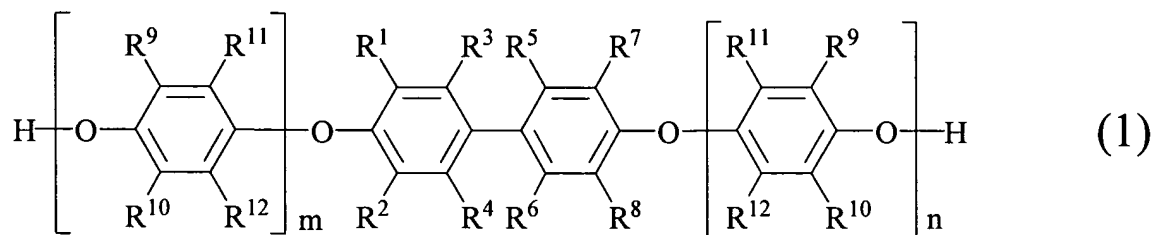
AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 3, line 29, to page 4, line 14 as follows:

Disclosure of the Invention

The present invention provides a process for the production of a bifunctional phenylene ether oligomer compound having no amine adduct, represented by the formula (1), which process comprises oxidatively polymerizing a bivalent phenol of the formula (2) and a monovalent phenol of the formula (3) in the presence of a copper-containing catalyst, and a tertiary amine, a secondary amine having a secondary alkyl group, a tertiary alkyl group or an aryl group, or a mixture of both,

[Chemical formula 1]



wherein $\text{R}^1, \text{R}^2, \text{R}^3, \text{R}^7, \text{R}^8, \text{R}^9$ and R^{10} are the same or different and represent a halogen atom, an alkyl group having 6 or less carbon atoms or a phenyl group, $\text{R}^4, \text{R}^5, \text{R}^6, \text{R}^{11}$

and R^{12} are the same or different and represent a hydrogen atom, a halogen atom, an alkyl group having 6 or less carbon atoms or a phenyl group, and each of m and n is an integer of from 0 to 25, provided that at least one of ~~a and b~~ m and n is not 0.

Please amend the paragraph beginning on page 20, line 16, to page 21, line 16 as follows:

(Example 8)

A longitudinally long reactor having a volume of 12 liters and equipped with a stirrer, a thermometer, an air-introducing tube and baffleplates was charged with 2.14 g (9.6 mmol) of $CuBr_2$, 0.76 g (4.4 mmol) of N,N'-di-t-butylethylenediamine, 15.64 g (154.6 mmol) of n-butyldimethylamine, 0.6 g (1.5 ~~mol~~ mmol) of tri-n-octylmethyl ammonium chloride and 2,000 g of toluene. The components were stirred at a reaction temperature of 40 °C. A mixed solution (bivalent phenol of the formula (2) : monovalent phenol of the formula (3) in molar ratio = 1 : 10) was obtained by dissolving 75.70 g (0.28 mol) of HMBP, 342.1 g (2.80 mol) of 2,6-dimethylphenol, 1.76 g (7.9 mmol) of $CuBr_2$, 0.51 g (3.0 mmol) of N,N'-di-t-butylethylenediamine and 23.46 g (231.8 mmol) of n-butyldimethylamine in 1,500 g of methanol in advance. The mixed solution was dropwise added to the mixture in the reactor over 230 minutes while carrying out bubbling with 5.2L/min of a nitrogen-air mixed gas having an oxygen concentration of 8 %, and stirring was carried out. After the completion of the addition, 1,500 g of water in which 19.84 g (43.9 mmol) of tetrasodium ethylenediamine tetraacetate tetrahydrate was dissolved was added to the stirred mixture to terminate the reaction. An aqueous layer and an organic layer were separated. Then, the organic layer was washed with 1.0 N hydrochloric acid aqueous solution and then with pure water. The thus obtained solution was concentrated with an evaporator and then dried under a reduced pressure, to obtain 410.1 g of a phenylene ether oligomer compound. The phenylene ether oligomer compound had Mn of 1,490, Mw of 2,380, Mw/Mn of 1.60 and a hydroxyl group equivalent of 755. Unreacted HMBP was 0.3 % and unreacted 2,6-dimethylphenol was 0.1 %. No peak corresponding to

amine was detected in its ^1H -NMR measurement and accordingly it was confirmed that no amine adduct generated.

Please amend the paragraph beginning on page 22, line 12, to page 23, line 16 as follows:

(Comparative Example 1)

A longitudinally long reactor having a volume of 12 liters and equipped with a stirrer, a thermometer, an air-introducing tube and baffleplates was charged with 3.88 g (17.4 mmol) of CuBr_2 , 0.85 g (4.9 mmol) of $\text{N,N}'$ -di-*t*-butylethylenediamine, 10.40 g (102.8 mmol) of *n*-butyldimethylamine, 8.21 g (63.5 mmol) of di-*n*-butylamine, 0.6 g (1.5 ~~mol~~ mmol) of tri-*n*-octylmethyl ammonium chloride and 2,000 g of toluene. The components were stirred at a reaction temperature of 40 °C. A mixed solution (bivalent phenol of the formula (2) : monovalent phenol of the formula (3) in molar ratio = 1 : 5) was obtained by dissolving 129.32 g (0.48 mol) of HMBP, 292.19 g (2.40 mol) of 2,6-dimethylphenol, 1.70 g (9.9 mmol) of $\text{N,N}'$ -di-*t*-butylethylenediamine, 20.80 g (205.6 mmol) of *n*-butyldimethylamine and 16.43 g (127.1 mmol) of di-*n*-butylamine in 2,200 g of methanol in advance. The mixed solution was dropwise added to the mixture in the reactor over 230 minutes while carrying out bubbling with 5.2L/min of a nitrogen-air mixed gas having an oxygen concentration of 8 %, and stirring was carried out. After the completion of the addition, 1,500 g of water in which 19.84 g (52.2 mmol) of tetrasodium ethylenediamine tetraacetate was dissolved was added to the stirred mixture to terminate the reaction. An aqueous layer and an organic layer were separated. Then, the organic layer was washed with 1.0 N hydrochloric acid aqueous solution and then with pure water. The thus obtained solution was concentrated with an evaporator and then dried under a reduced pressure, to obtain 408.4 g of a bifunctional phenylene ether oligomer compound. The bifunctional phenylene ether oligomer compound had a number average molecular weight of 930, a weight average molecular weight of 1,370 and a hydroxyl group equivalent of 470. Unreacted HMBP was 4.6 % and unreacted 2,6-dimethylphenol was 0.9 %. A peak corresponding to di-*n*-butylamine was detected in its ^1H -NMR measurement. From the integration ratio of the

peak (0.89 ppm) of its methyl group, it was confirmed that an amine adduct existed in an amount of 22 %.

Please amend the paragraph on page 24, lines 18 to 22 as follows:

(Comparative Example 3)

Example 4 was repeated except that 1.28 g (7.4 mmol) of N,N'-di-t-butylethylenediamine and 39.10 g (~~96.6~~ 386.3 mmol) of n-butyldimethylamine were charged in the longitudinally long reactor in one lump, respectively, in place of the divided additions of these.